City of Bellevue

Development Services
Handout **L-11**

Calculating Building Height

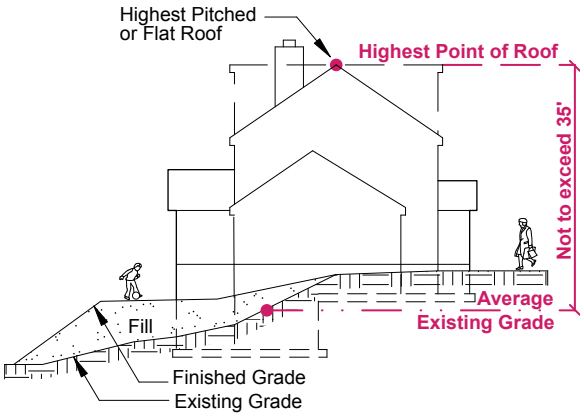
Single-Family Uses in Single-Family Land Use Districts

December 2014

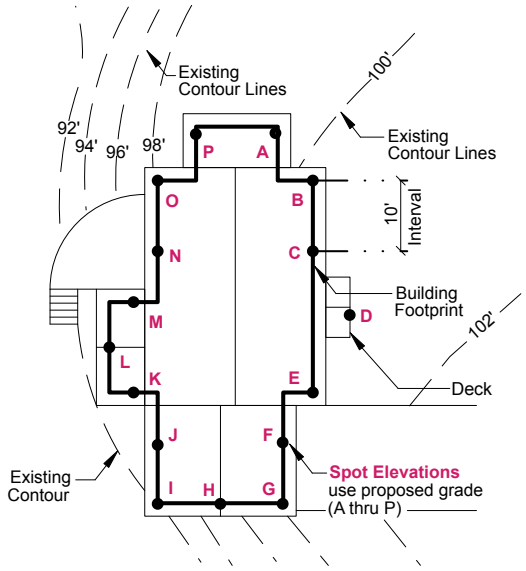
Note: This handout applies to all single-family structures in single-family land use districts.

How is building height measured?

Building height is measured from average existing grade–around the building or, in some cases, around a building segment to the highest point of a flat roof or the highest ridge of a pitched roof. Roofs with a pitch of less than 2:12 are considered flat roofs.



Measuring Building Height
(figure 1)



Determining Average Existing Grade
(figure 2)

Table 1

A		G		M	
B		H		N	
C		I		0	
D		J		P	
E		K		TOTAL A:P	
F		L		Divide by 16	

How do I determine average existing grade?

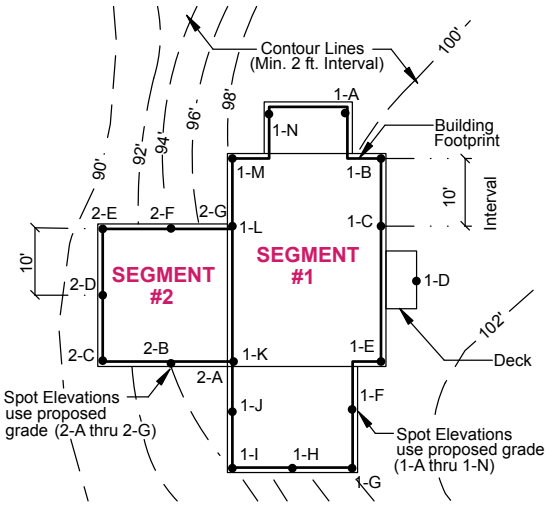
Step 1: Provide an accurate drawing of the building footprint on the site. The drawing must show the existing topography (using contour lines, at 2' intervals).

Step 2: Show points on the drawing every 10' around the building footprint. For each point, provide spot elevations of the topography as it exists today.

Step 3: Add up all of the spot elevations, and divide by the quantity of those spot elevations. This gives you your average existing grade. Show this table on the site plan.

Calculating the Average Existing Grade
(add all spot elevations)

See figure 2 and Table 1.



Determining Average Existing Grade

(Separate Building Segments)
(figure 3)

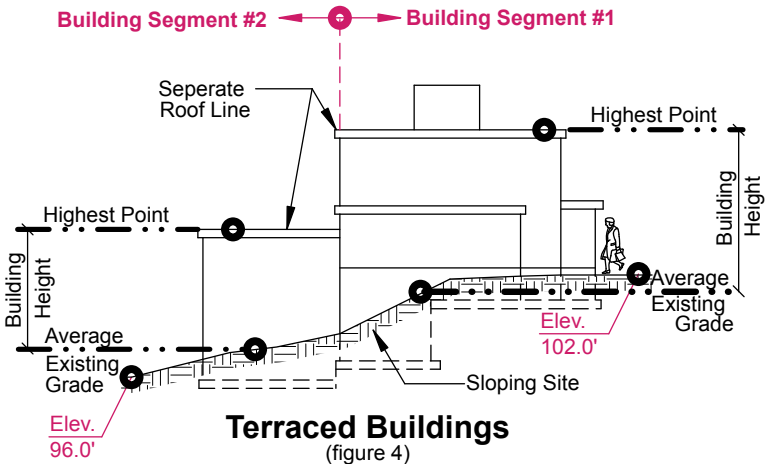
Table 2

1A		1G		1L	
1B		1H		1M	
1C		1I		1N	
1D		1J		TOTAL 1A:1N	
1E		1K		Divide by 14	
1F					

2A		2D		2G	
2B		2E		TOTAL 2A:2G	
2C		2F		Divide by 7	

What is a "building segment"?

A building segment is that portion of a terraced building on a sloping site which has a separate roof line or finished floor elevation with a grade change of at least four feet (figure 4).



Terraced Buildings
(figure 4)

What if I have a sloping site and a building composed of building segments?

A building segment is defined as a portion of terraced building on a sloping site which has separate roof line or finished floor elevation with a grade change of at least 4 feet.

To determine average existing grade for each segment, refer to the scaled drawing of the building footprint on the site, which you have prepared, showing the spot elevations for finished grade at 10' intervals around the building. Do not provide spot elevations on the common wall between the segments.

Locate and show on the plan the line or lines that distinguish each building segment. Number the segments. Starting with segment #1, add up all the spot elevations for that segment and divide by the quantity of the spot elevations for that segment. This gives you the average finished grade for segment #1 (figure 3). Repeat the process for each numbered segment.

Calculating the Average Existing Grade
(add all spot elevations)

$\frac{\text{1A thru 1N}}{14}$ = Average Existing Grade
(divide by # of spot elevs.)

$\frac{\text{2A thru 2N}}{7}$ = Average Existing Grade
(divide by # of spot elevs.)

Repeat for each building segment

See figure 3 and Table 2

How do I illustrate the proposed height for each building facade?

Provide a building elevation drawing that portrays the existing grade at the building wall and the elevation to the ridge of a pitched roof or top of a flat roof.

For new single-family residential homes and additions, building height is also measured for each individual facade.

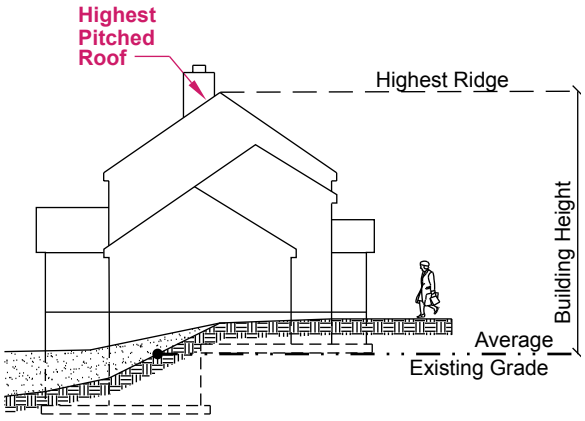
New single-family residences constructed as part of a subdivision pursuant to LUC 20.45.A or a planned unit development are exempt from this requirement.

How do I determine if a building on a sloping site that is composed of building segments complies with the permitted building height?

For building segment #1 determine the elevation of the highest point of the roof if it is a flat roof or the highest ridge if it is a pitched roof. Subtract the average existing grade for segment #1 from the roof elevation for segment #1. Then repeat this process for each numbered segment.

How do I determine if my proposed structure complies with the permitted height limit?

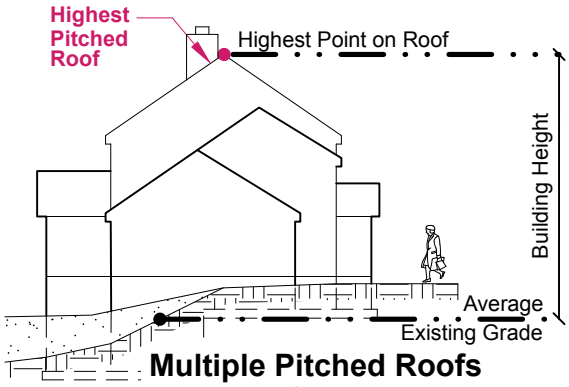
Subtract the average existing grade from the highest point of a flat roof (figure 2), or from the highest ridge of a pitched roof (figure 1). If the result does not exceed the allowable height limit, the structure complies.



Multiple Pitched Roofs
(figure 5)

What if my building has several pitched roof sections with different ridge and eave elevations?

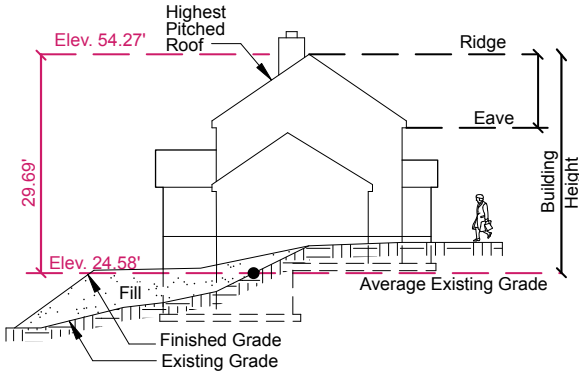
In this situation you would measure to the top of the highest ridge.



Multiple Pitched Roofs
(figure 6)

How do I illustrate proposed building height?

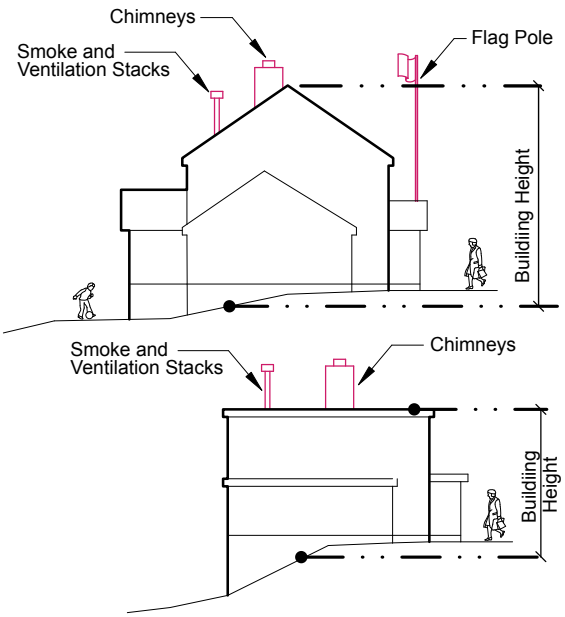
Provide a building elevation drawing that portrays the average existing grade elevation and the elevation of the highest point of a pitched roof or elevation of a flat roof, excluding parapet. See figures 7 and 8.



Building Height
(figure 7)

Are any building features excluded from building height calculations?

Small, slender appurtenances such as chimneys, antennas, smoke and ventilation stacks, and flagpoles are not included in the building height.
(See figure 8).



Excluded Building Features
(figure 8)

Where can I get additional information?

- Land Use Code 20.25E.017.B, *Shoreline Building Height*
- Land Use Code 20.50.012, Definition of *Building Height Single-Family Uses in Single-Family Land Use Districts* and *Building Segment*
- Land Use Code 20.50.0.18, Definition of *Existing Grade*
- Land Use Code 20.50.022, Definition of *Grade* and *Grade, Finished*
- Land Use Code, Dimensional Requirements Chart

This document is intended to provide guidance in applying certain Land Use Code regulations and is for informational use only. It cannot be used as a substitute for the Land Use Code or for other city codes, such as the Construction Codes. Additional information is available from Development Services at Bellevue City Hall or on the city website at www.bellevuewa.gov.

For land use regulations that may apply to your project, contact the Land Use Information Desk in Development Services. Phone: 425-452-4188. E-mail: landusereview@bellevuewa.gov. Assistance for the hearing impaired: dial 711.